

What is claimed is:

1. A terminal status control system comprising:

a registration table in which information concerning a terminal that is allowed to use a specific base station is registered;

a judging unit judging whether a terminal that has entered a cell of the specific base station is the terminal registered in the registration table by referring to the registration table; and

a control unit, if the terminal is the registered terminal, placing the terminal under a communicable status using the specific base station, and if not, placing the terminal under an incommunicable status using the specific base station.

2. A terminal status control system according to claim 1,

wherein with reception of a location updating request transmitted from the terminal as a trigger, the judging unit judges whether the terminal is the registered terminal by acquiring base station specifying information for specifying the base station that received the location updating request from the terminal and identification information of the terminal, and judging whether the base station specifying information and the terminal identification information are registered in the registration table, and

if the terminal is the registered terminal, the control

unit approves the location updating request from the terminal, and if not, rejects the location updating request from the terminal.

3. A terminal status control system according to claim 1,

wherein the terminal is constructed so as to transmit the location updating request when a location area identifier received from a base station is changed due to an inter-cell movement, and

the terminal status control system further comprises:

a giving unit giving the specific base station a location area identifier for the specific base station that is different from location area identifiers broadcasted in cells adjacent to the cell of the specific base station as a location area identifier that the specific base station broadcasts in the cell thereof.

4. A terminal status control system according to claim 3,

wherein the giving unit is provided in a base station control apparatus that manages and controls the specific base station, and

the base station control apparatus includes a conversion unit converting a location area identifier of a location area, to which the specific base station belongs, contained in broadcast information, which the base station control apparatus

receives from a location management apparatus managing the location of each terminal existing in the location area, to which the specific base station belongs, and transfers to the specific base station, into the location area identifier for the specific base station.

5. A terminal status control system according to claim 4,

wherein the conversion unit converts the location area identifier for the specific base station contained in the location updating request from the terminal, which the base station control apparatus receives from the specific base station and transmits to the location management apparatus, into the location area identifier of the location area to which the specific base station belongs.

6. A terminal status control system according to claim 4,

wherein the location management apparatus includes a management table for managing identification information unique to each terminal, a location area identifier of a location area in which the terminal exists, and a temporary identification information temporarily allocated to the terminal, and

the registration table and the judging unit are provided in the location management apparatus,

wherein the base station control apparatus adds identification information of the specific base station to

the location registration request received from the specific base station, and transmits the location registration request to the location management apparatus, and

the judging unit acquires the identification information of the base station from the location registration request received by the location management apparatus as the base station specifying information, and if terminal identification information contained in the location updating request is the terminal temporary identification information, further acquires corresponding identification information unique to the terminal from the management table and judges whether the base station specifying information and the identification information unique to the terminal are registered in the registration table.

7. A terminal status control system according to claim 6,

wherein the location management apparatus judges whether it is possible to approve the location updating request from the terminal,

wherein if it is impossible to permit the location updating, the location management apparatus transmits updating rejection to the terminal, and if it is possible to permit the location updating, causes the judging unit to perform the judging processing,

wherein if it is judged as a result of the judging processing that use of the specific base station is allowable, permission

with respect to the location updating is transmitted to the terminal, and if not, rejection with respect to the location updating is transmitted to the terminal.

8. A terminal status control system according to claim 4,

wherein the registration table and the judging unit are provided in the base station control apparatus, and

the judging unit acquires the identification information of the specific base station managed by the base station control apparatus as the base station specifying information, and if identification information of the terminal contained in the location updating request received from the specific base station by the base station control apparatus is temporary identification information, acquires identification information unique to the terminal by inquiring of the terminal, and judges whether the base station specifying information and the identification information unique to the terminal are registered in the registration table.

9. A terminal status control system according to claim 8,

wherein when the base station control apparatus receives the location updating request from the specific base station, the judging unit performs the judging processing before the location updating request is transmitted to the location management apparatus, and

if it is judged as a result of the judgment by the judging unit that use of the specific base station is allowable, the base station control apparatus transmits the location updating request to the location management apparatus, and if not, transmits updating rejection to the terminal with respect to the location updating request.

10. A terminal status control system according to claim 3,

wherein the location management apparatus, when a call termination request to the terminal occurs after the terminal is placed by the control unit under the communicable status using the specific base station, receives an inquiry from a transfer unit of the call termination request concerning a location area corresponding to a transmission destination of the call termination request, acquires the base station specifying information of the specific base station from the registration table, and informs the transfer unit of the identification information of the specific base station along with a corresponding location area identifier, based on the acquired location area identifier and base station specifying information of the specific base station, the transfer unit transmits the call termination request only to the base station control apparatus that controls the specific base station, and

the base station control apparatus, when receives the call termination request, transmits the call termination request

to each base station that the base station control apparatus controls.

11. A terminal status control system according to claim 10,

wherein the transfer unit gives the base station specifying information of the specific base station to the call termination request, and

the base station control apparatus, when receives the call termination request, transmits the call termination request only to the specific base station based on the base station specifying information of the specific base station contained in the call termination request.

12. A terminal status control system according to claim 8,

wherein after the terminal is placed by the control unit under the communicable status using the specific base station, when a call termination request to the terminal is received, the base station control apparatus acquires the base station specifying information of the specific base station corresponding to the identification information of the terminal contained in the call termination request from the conversion table and transmits the call termination request only to the specific base station based on the acquired base station specifying information.

13. A terminal status control system according to claim 4,

wherein the base station control apparatus that controls the specific base station uniformly rejects handover requests from other base station control apparatuses.

14. A terminal status control system according to claim 4,

wherein with respect to a handover request from another base station control apparatus, the base station control apparatus that controls the specific base station judges whether a terminal that is a target of the handover request is the terminal allowed to use the specific base station based on registration contents of the registration table,

wherein if the target terminal is the allowed terminal, the base station control apparatus approves the handover request, and if not, rejects the handover request.

15. A terminal status control system according to claim 14,

wherein when call origination from the terminal is received, the another base station control apparatus acquires the identification information unique to the terminal from the terminal, adds the identification information unique to the terminal to the handover request from the terminal, and transmits the handover request to the base station control apparatus that controls the specific base station, and

the base station control apparatus controlling the specific base station acquires the identification information unique to the terminal necessary to perform the judging processing from the handover request.

16. A terminal comprising:

a detection unit detecting entrance and exit into and from a cell of a specific base station that the terminal is allowed to use; and

an informing unit informing a user of the terminal of the entrance and the exit into and from the cell of the specific base station.

17. A terminal according to claim 16, further comprising:

a second informing unit, when the terminal is currently performing communication, informing the user of the terminal of whether the communication is performed using the specific base station.

18. A terminal according to claim 16, further comprising:

a storage unit storing identification information of the specific base station,

wherein the detection unit receives base station identification information periodically transmitted from at least one base station with which the terminal is communicable, and if identification information matching the identification information stored in the storage unit is contained in the

received identification information, detects that the terminal has entered the cell of the specific base station.

19. A terminal according to claim 18,
wherein after the terminal enters the cell of the specific base station, when reception of the identification information from the specific base station becomes impossible, the detection unit detects that the terminal has exited the cell of the specific base station.

20. A terminal according to claim 16, further comprising:
a selection unit, when selecting one of a plurality of base stations with which the terminal is communicable, if the specific base station is contained among the plurality of base stations, preferentially selecting the specific base station.

21. A terminal status control system according to claim 1, further comprising:

an internet protocol (IP) interface portion that is provided between the specific base station and the base station control apparatus that manages and controls the specific base station and performs IP communication therebetween, and

an apparatus that is provided between the base station control apparatus and a switchboard of a network including other base station control apparatuses and the location management apparatus, and performs conversion between the IP interface and another interface applied to the switchboard.

22. A base station control apparatus that manages and controls a specific base station that is usable only by a terminal allowed to use the specific base station, comprising:

a unit receiving a message relating to a handover, whose handover destination is a cell of the specific base station, from another base station control apparatus; and

a control unit uniformly rejecting processing relating to the handover based on the message from the another base station control apparatus.

23. A base station control apparatus that manages and controls a specific base station that is usable only by a terminal allowed to use the specific base station, comprising:

a registration table in which information concerning the terminal allowed to use the specific base station is registered;

a judging unit, with respect to a handover request whose handover destination is a cell of the specific base station, judging whether a terminal issued the handover request is the terminal allowed to use the specific base station by referring to the registration table; and

a control unit, if the terminal issued the handover request is the terminal allowed to use the specific base station, performing processing relating to the handover, and if not, rejecting the handover.

24. A base station control apparatus according to claim 22,

wherein the control unit rejects the handover by, with respect to a request to secure a resource for the handover to the specific base station received from the another base station control apparatus, not transmitting the resource securing request to the specific base station but transmitting a resource securing failure message to the another base station control apparatus.

25. A base station control apparatus according to claim 23,

wherein the control unit rejects the handover by, with respect to a request to secure a resource for the handover to the specific base station received from the another base station control apparatus, not transmitting the resource securing request to the specific base station but transmitting a resource securing failure message to the another base station control apparatus.

26. A terminal status control system according to claim 1,

wherein the specific base station is connected to the base station control apparatus via an Internet service provider network.

27. A terminal status control system according to claim

25,

wherein if the specific base station is always connected to the Internet service provider network and a terminal located in the cell thereof is allowed to use the specific base station, the specific base station performs control of call origination from and/or call termination to the terminal.